suggest a lesion of the spinal cord. In two other cases of tumor of the cauda equina—viz., those of Simon (*Arch. f. Psych.*, 1875) and Lachmann (*Ibid.*, 1882), the characteristic nervous symptoms of compression of the cauda were wholly wanting, and the cases were not diagnosticated during life.

Some writers upon the differential diagnosis between cord and cauda equina lesions have laid stress upon the fact that sensations of touch, temperature, and pain are not always equally destroyed, and have sought to conclude that this inequality of sensory disturbance was evidence of cord lesion as distinguished from cauda equina lesion. The cases here cited of Herter and Oppenheim, with autopsies, and two of my cases, in which the operation showed the lesion to be a compression of the cauda without lesion of the cord, prove that this point of differential diagnosis is not well taken. In both cord and cauda lesions the disturbance of tactile sense may be more or less extensive than that of the senses of pain and temperature.

It is evident from the facts here presented that a careful study of disturbances of sensation is a valuable aid in the diagnosis of the situation of lesions in the spinal cord and cauda equina. It is, however, to be remembered that anæsthesia is but one of a series of symptoms entering into that diagnosis, and the condition of reflexes, and the power, tone, and electric reactions of the muscles are not to be neglected in the examination of any case. It is only when *all* the signs of a local lesion coincide that the diagnosis is an absolute one.

22 WEST 48TH STREET, NEW YORK.

RADICAL CURE OF PSOAS ABSCESS.

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The treatment of psoas abscess secondary to disease of the spine has from time immemorial been extremely unsatisfactory, and even at the present day many different practices are followed.

Deckers, writing in 1693, advised opening the abscess with a trocar; he left the canula in the cavity, stopped with a *cork*, and let out the pus at intervals. Benjamin Bell adopted a similar proceeding.

Liston advised opening the abscess when it pointed, and says: "In these cases the discharge is generally profuse, long continued, and attended with exhaustion and hectic, gradually but surely destroying the patient." "Opening the cavity and shutting it up again, however carefully conducted, is in almost every instance followed by alarming and hazardous results." Lawrence and Sir Astley Cooper, on the other hand, strongly recommended Abernethy's plan, which consisted in "puncturing the abscess obliquely, and so producing a valvular opening; evacuating the pus in a continuous stream, so that no air should gain admittance." "When the abscess is emptied as much as possible, the wound should be attentively wiped, the edges placed in exact contact and retained in that state by strips of plaster." Other writers, as Kirkland, preferred the abscess to burst of itself. Dupuytren and John Pearson both considered it dangerous to open a psoas abscess on account of the almost inevitable hectic fever.

In the present day we have much less hesitation in operating, and the treatment that is probably usually adopted is, in the first instance, absolute rest; and if, in spite of this, the abscess continues to increase, it is opened and drained from the loin, as advised by Mr. Treves, the bodies of the diseased vertebræ examined from the wound, and sequestra removed if found; the strictest antiseptic precautions being maintained throughout the whole course of the case. Some surgeons speak very highly of an injection of iodoform emulsion into the abscess-cavity; but, as Mr. Erichsen, says, further experience is required before its true value can be ascertained.

Though quite appreciating that the antiseptic method has put the treatment of psoas abscess upon an entirely different footing, still, as a matter of practical experience, the treatment usually adopted leaves much to be desired.

I am quite aware that in a number of cases the abscess has disappeared and the patient has been cured simply by means of prolonged and absolute rest. But, unfortunately, a large proportion of patients suffering from psoas abscess are of the poorer classes, and absolute rest (especially in the case of children) outside a hospital is quite out of the question. On the other hand, if the abscess is opened and drained, the discharge is so profuse and long continued that antisepsis breaks down, and the case not unfrequently terminates either in lardaceous disease or general tuberculosis.

Most favorable results are now obtained in the treatment of wounds, by closing them without drainage and applying pressure, a practice that I adopt in all suitable cases.

Last year Mr. Arthur E. Barker brought forward at the London Clinical Society some cases of psoas abscess in which he had succeeded in obtaining primary union, with obliteration of the abscess-cavity, after opening the abscess in the loin, thoroughly scraping and washing its walls, and then closing the wound without drainage. The favorable results obtained by Mr. Barker induced me to adopt a similar practice. The cases I have operated upon in this manner are four in number, and in every one of them primary union with obliteration of the abscess-cavity resulted.

In one of my cases twenty ounces of pus were evacuated; on examining the vertebræ with my finger, from the wound, a loose sequestrum the size of one's thumb-nail was felt lying in the side of one of the bodies of the lumbar vertebræ, and was removed. The walls of the cavity, lined with a thick, slimy membranous layer, the so-called "pyogenic membrane," were carefully scraped with a Volkmann's spoon until, as far as could be ascertained, the whole of it was removed, the lining walls now presenting a comparatively rough feel. The abscess-cavity during and after the scraping was thoroughly washed with a hot but weak antiseptic solution, a little iodoform dusted in, and the wound closed without drainage. Firm pressure by means of a pad of wood-wool wadding was applied over the situation of the psoas muscle anteriorly, and the thigh on the affected side was fixed. There was no rise of temperature after the operation. The wound was dressed on the following day, as the child had soiled her dressings, and again on the ninth day, when it was found completely healed, and there was absolutely no evidence of re-accumulation in the abscess-cavity. The patient was discharged in a Sayre's jacket and a hip Thomas, and when shown with the other three cases at a meeting of the Liverpool Medical Institution four months afterward, there was not the slightest evidence of a psoas abscess.

One of the other cases, a girl three years of age, on whom I operated in October, 1891, was in a most unfavorable condition, for, besides spinal caries and a psoas abscess, the child had necrosis of the frontal bone, disease of both elbow-joints, and disease of the tarsus. It is now six months since the operation, and there is not the least sign of a psoas abscess.

It certainly was somewhat of a surprise to me that an abscess-cavity containing twenty ounces of pus could be thus obliterated, but the explanation I take to be as follows: On first opening the abscess and passing one's finger into the cavity, it is, so to speak, lost in a sea of pus, and it may be only with extreme difficulty that one can make out its boundaries. After all the pus has been evacuated, the walls collapse somewhat and readily come within reach of the finger, and, after the scraping and washing with hot antiseptic solution, the walls become further collapsed, are thrown into folds, and the opposing surfaces come into contact. The "pyogenic membrane" having been removed, these folds become adherent one to the other, blood-clot replaces the pus, and in turn is replaced by fibrous tissue, and so obliteration of the abscess-cavity is completed. It is now more than twelve months since I operated upon my first case, and the child is at present in good health, and there is not the least sign of a psoas abscess.

As regards the details of the operation it is only necessary to say that strictly antiseptic precautions must be taken before, during, and after the operation. The abscess must be opened in the loin, for one is then near the seat of disease, and is thus enabled to examine the bodies of the diseased vertebræ and remove any loose sequestra. The lotion used for washing out should be weakly antiseptic but decidedly hot (about as warm as the hand can bear), for not only does it thus cause the abscess-walls to be thrown into folds, but also arrests any bleeding that not unfrequently takes place from vessels contained in the ruptured fibrous bands sometimes found crossing the abscess-cavity.

The after-treatment, of course, should be directed to the diseased spine, which will require mechanical support, and to improving the general health of the patient.

In relating these favorable results I trust I may induce other surgeons to adopt a practice at once so simple and so satisfactory; and I am sure the profession owes a debt of gratitude to Mr. Barker for being the first to demonstrate its practicability.

LIVERPOOL, April, 1892.

GANGLION AND TENO-VAGINITIS TUBERCULOSA.

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II. TENO-VAGINITIS TUBERCULOSA.

THIS subject stands in such close relation to the foregoing one,[1] affecting as it often does the very region in which ganglia are most commonly met with, and such has been the confusion existing between true ganglion and the subject under consideration, commonly called by English physicians compound ganglion, that the two may well be considered in conjunction. Not improbably this designation "compound ganglion" has done much to increase the indefinite conception of what is meant by the term ganglion. To-day there can, however, be no doubt but that ganglion and all the forms of tuberculosis of the tendon-sheaths have nothing in common; they are separate affections, and should therefore have dissimilar names.

The preceding paragraph presupposes that true ganglion is not tubercular in origin. The possibility of such an origin is one which, as far as I know, has yet to find expression in print. Against the idea speak two circumstances: no tubercle bacilli have been found in a true ganglion, and second, a localized tuberculosis of the skin and subcutaneous structures has never been reported as following the rupture of a ganglion, an inoculation experiment. The recognition of tuberculosis of the tendon-

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[1] Evans: "Ganglion and Teno-vaginitis Tuberculosa," THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES, June, 1892, p. 643.